



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,528	05/08/2006	Yuichi Ozeki	062492	9482
38834 7590 08/18/2009 WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036				
EXAMINER				
MALEKZADEH, SEYED MASOUD				
ART UNIT		PAPER NUMBER		
1791				
NOTIFICATION DATE		DELIVERY MODE		
08/18/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

Office Action Summary

Application No.

10/578,528

Applicant(s)

OZEKI ET AL.

Examiner

SEYED M. MALEKZADEH

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-20, 22 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/05/2009 has been entered.

Response to Amendment

Claims **12-20** and **22-23** are **rejected**.

Claims **1-11** and **21** are **cancelled**.

Claim **12** is **amended**.

In view of the amendment, filed on 06/05/2009, after a final rejection mailed on 02/05/2009, following rejections are **withdrawn** from the previous office action for the reason of record.

- Rejection of claim 23 under 35 U.S.C. 112, second paragraph
- Rejection of claims 12- 20 and 22- 23 under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (WO 01/98067) in view of Yamashita et al. (US 5,100,604)

New Grounds of Rejection

35 USC § 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims **12- 20 and 22- 23** are rejected under 35 U.S.C. **112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites "an enhanced strength in a portion of the outer layer" which renders the claim indefinite. The term "enhanced" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite criteria for the "enhanced", and one of ordinary skill in the art would not be reasonably apprised the scope of the invention. Clarification is requested.

Claim 12 recite the limitation "the sidewall" in the fourth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to clearly define "a sidewall" for the claimed apparatus. It is not clear if the claimed "sidewall" is referring to the sidewall of the "core", "outer layer", or whole "molding". Clarification is requested.

Claim 12 recites the limitation "the amount of the molding material" in the thirteenth line. There is insufficient antecedent basis for this limitation in the claim because prior to the cited limitation, the claim fails to further clarify

"an amount of the molding material" for the molding material. Clarification is requested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 12- 20 and 22- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al. (WO 01/98067) in view of Shimada et al. (WO 02/090098)

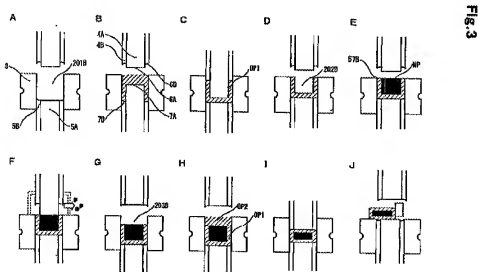
Note: Kondo et al. (US Publication 2004/0113319) is a continuation of Kondo et al. (WO 01/98067). Therefore, for the purpose of the patent examination Kondo et al. (US' 319) has been used as a translation for Kondo et

al. (WO 01/98067); also, Shimada et al. (US publication 2004/0131717) is a continuation of Shimada et al. (WO 02/090098). Thus, Shimada et al (US '717) has been used as a translation for Shimada et al. (WO '098)

As to claim 12, Kondo et al (WO '067) teach a method of manufacturing a molding article with a core and an outer layer using a compression molding apparatus comprising an upper punch with a double structure including a center punch (4A) and an outer periphery of the center punch (4B), a lower punch with a double structure including a center punch (5A) and an outer punch (5B), and a die (3) wherein both of the upper punches (4A and 4B) and the lower punches (5A and 5B) are arranged in the vertical direction of the die (3), respectively, and the outer punches (4B and 5B) surround the outer periphery of the center punches (4A and 5A) and being slid-able and capable of a compressing operation. (See claims 1 and 2 and figures 1-5)

Furthermore, Kondo et al (WO '067) teach the method comprises the step of supplying molding material for the outer layers (OP1 and OP2) and molding material for the core (NP) and further, the step of compression molding of the molding material for the outer layer and the molding material for the core, and finally, a compression-molding step of the whole molding with core. (See claim 4). Moreover, the prior art teaches the step of supplying and filling the molding material for the outer layer (OP1 and OP2) is performed when a tip (7A) of the lower center punch (5A) takes a position protruding from a tip (7B) of the lower outer punch (5B) to increase the amount of the molding material for the outer

layer on the lower outer punch (5b) (See figure 3B) and also the step of compression-molding the whole molding article with a core is performed with the tips of the lower center punch (5A) and the lower outer punch (5B) aligned with each other. (See figures 3G - 3H)



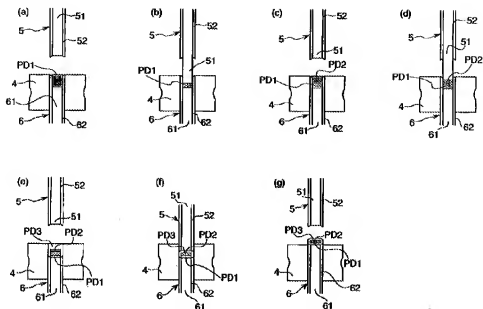
Moreover, Kondo et al (WO '067) teaches the core material is supplied into a space defined above the lower center punch (5A) which is surrounded by the lower outer punch (5B) and also a compression molding step of the molding material for the core supplied (See figures 1G - 1H) and further, an outer layer supply (OP1) step of supplying molding material for the outer layer into a space defined above and around the molding in the die is molded in a step (preceding to the core supply and compression step until a tip of the lower center punch finally takes a position protruding from a tip of the lower outer punch; and moreover, a whole molding step of compression-molding the core molding and

the molding material for the outer layer with tips of the lower outer punch and the lower center punch aligned with each other. (See figures 3J - 3M).

However, Kondo fails to teach the core (NP) supply step is **precedent** to the outer layer (OP1) supply step, as claimed in claims 12 and 14.

In the analogous art, Shimada et al (WO '098) teach a compression molding process with a rotary type compression molding machine comprising an upper punch (5) having a center punch (51) and an outer punch (52) around the center punch (51), a die (4), and a lower punch (6) having a lower center punch (61) and a lower outer punch (62), wherein the compression molding process comprises a step of filling a first powdery material (PD1) which is a part of the core material and performing the compression process; further, causing the lower center punch (61) to descend and supplying a predetermined amount of the second powdery material (PD2) forming another section of the molded core and then supplying and compressing, a third powdery material (PD3) as a shell material to form a shell for the molded core. (See abstract and paragraph [0076]) Therefore, according to the Shimada et al (WO '098), the core supply step of supplying molding material for the core into the mold space is precedent to the outer layer supply step of supplying molding material for the outer layer. (See figure 10)

Fig. 10



Therefore, **it would have been obvious** for one of ordinary skill in the art at the time of applicant's invention to modify the compression process as taught by Kondo et al (WO '067) through **performing** the core supply step precede to the outer layer step **in order to** improve the quality of the molding product through providing a uniform density distribution throughout the obtained product and properly centering the core in the molded product and preventing the core deviation throughout the compression process, as suggested by Shimada et al (WO '098)

As to claim 13, Kondo et al (WO '067) teach the step of supplying the molding material consists of two steps including the step of supplying the molding material for the core (NP) and the step of supplying the molding material for the outer layer (OP1 and OP2) wherein the step of supplying the

molding material for the outer layer (OP1) is performed prior to the step of supplying the molding material for the core (NP) in such a way that the molding material for the outer layer is supplied to the die, first; then, the molding material for the core (NP) is supplied, and finally, the molding material for the outer layer (OP2) is supplied into the die (3). (See figures 3B, 3E, and 3H)

Kondo et al (WO '067) also teach in the step (3b) which is the outer layer material (OP1) is supplied into the die (5), the lower center punch (5A) is protruded from the lower outer punch (5B), and then in step (3c), the tip (7A) of the lower center punch and the tip (7B) of the lower outer punch are aligned and further, the lower outer punch (5B) and the lower center punch (5A) are raised, see step (3d), before the step (3e) of supplying the molding material for the core (NP).

Therefore, **as to claim 15**, Kondo et al ('067) teach the lower outer punch (5B) is raised to align the tip (7B) of the lower outer punch with the tip (7A) of the lower center punch from the position in which the tip (7A) of the lower center punch is protruded from the tip (7B) of the lower outer punch after the step of supplying the molding material for the outer layer (OP1) and posterior to the step of supplying the molding material for the core (NP). (See figures 3A-3D)

Kondo et al (WO '067) also teach in the step (3b) which is the outer layer material (OP1) is supplied into the die (5), the lower center punch (5A) is protruded from the lower outer punch (5B), and then in step (3c), the lower

center punch (5A) is lowered and the tip (7A) of the lower center punch and the tip (7B) of the lower outer punch are aligned, and further, the lower outer punch (5B) and the lower center punch (5A) are raised, see step (3d), before the step (3e) of supplying the molding material for the core (NP).

Therefore, **as to claim 16**, Kondo et al ('067) teach the lower center punch (5A) is lowered to align the tip of the lower center punch (7A) with the tip of the lower outer punch (7B) from the position in which the tip of the lower center punch (7A) is protruded from the tip of the lower outer punch (7B) after the step of supplying the molding material for the outer layer (OP1) posterior to the step of supplying the molding material for the core (NP). (See figures 3A - 3D)

Also, **as to claim 17**, Kondo et al ('067) disclose the lower center punch (5A) is lowered while the lower outer punch (5B) is raised to align the tip (7B) of the lower outer punch with the tip (7A) of the lower center punch from the position in which the tip (7A) of the lower center punch is protruded from the tip (7B) of the lower outer punch after the step of supplying the molding material for the outer layer posterior to the step of supplying the molding material for the core.

Moreover, **as to claims 18 and 22**, Kondo et al ('067) teach the operation of aligning the tips of the lower outer punch and the lower center punch with each other is performed with the upper center punch (7A) and upper outer punch (7B) pressing the molding material in the die (3) after the step of

supplying the molding material for the outer layer posterior to the step of supplying the molding material for the core. (See figure 3C)

Furthermore, **as to claim 19**, Kondo et al ('067) teach the process of pressing the molding material in the die (3) by the upper center punch (4A) and the upper outer punch (4B) is preformed with the tip (7A) of the lower center punch in the position protruding from the tip (7B) of the lower outer punch after the step of supplying the molding material for the outer layer (OP1) posterior to the step of supplying the material for the core (NP). (See figure 3B)

Moreover, **as to claim 20**, Kondo et al ('067) discloses the process of pressing the molding material in the die (3) by the upper center punch (4A) and the upper outer punch (4B) is not performed until the tip of the lower center punch (5A) and the tip of the lower outer punch (5B) become aligned with each other after the step of supplying the molding material for the outer layer (OP1) posterior to the step of supplying the molding material for the core (NP). (See figure 3C)

Further, **as to claim 23**, Kondo et al ('067) teach that the outer layer molding step of compression-molding the molding material of the outer layer (OP1) is supplied prior to the core (NP) supply step is performed.

Response to Arguments

Applicant's **arguments** with respect to claims 12- 20 and 22- 23 have been considered but are **moot** in view of the new ground(s) of rejection.

Further, in response to the **applicant's argument** that "in figure 1 of WO '067, the thickness of the outer layer molding material molding material supplied into the space on the lower outer punch and around the outer layer temporary molding (outer layer molding material of the side part) is equal to that of the outer layer/core temporary molding. If each thickness of the un-molded molding material and the molded molding material is the same, the filling density of the molded molding material is higher than that of un-molded molding material. Then, the inventors became aware that the filling density of the outer layer molding material supplied into the space on the lower outer punch and around the outer layer/core temporary molding becomes lower than that of the molding material of the outer layer/core temporary molding, and that is the cause of the lack of side intensity of the molding" (See remarks, page 9, and lines 1- 10), applicant's argument was fully considered but **was not found persuasive** because applicant's attention is drawn to the point that none of the claim recitations are directed to the thickness of the core or the outer layer, thus applicant's argument is not on point, further, it is obvious that when a tip of the lower center punch takes a position protruding from a tip of the lower outer punch, the space for holding the outer layer material increases which in result causes an increase in the amount of the molding material for the outer layer on the lower outer punch. (See figures 3B- 3C)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Masoud Malekzadeh whose telephone number is 571-272-6215. The examiner can normally be reached on Monday – Friday at 8:30 am – 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin, can be reached on (571) 272-1189. The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SEYED M. MALEKZADEH/

/Eric Hug/

Examiner, Art Unit 1791

Primary Ex., Art Unit 1791